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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/654,516	09/01/2000	Louise Farrand	MERCK-2155	6056

23599 7590 07/24/2003

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ARLINGTON, VA 22201

EXAMINER

OH, TAYLOR V

ART UNIT	PAPER NUMBER
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1625

DATE MAILED: 07/24/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Applicati n N .

09/654,516

Applicant(s)

FARRAND ET AL.

Examiner

Taylor Victor Oh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 May 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 11-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

***Final Rejection***

**The Status of Claims**

Claims 1-10 have been rejected.

Claims 11-17 have been withdrawn from consideration.

**The Restriction Requirement**

First, the examiner has inadvertently mistyped applicants' traversal.

Applicants argue that all the dependent claims require the particulars of claim 1.

Claims 14-16 also require polarizer elements, which does not change the fact that it still requires the compound defined by claim 1. Furthermore, Claims 14-16 require that other elements is what makes them "combination " claims, thereby making them patentably indistinct.

However, applicants' argument in the above are not found persuasive because the prior art Kim et al (U.S. 5,498,358) does teach that a lubricant composition can contain at least one mesogenic segment. From this teaching, Group I can be used in a different composition, such as the lubricant composition other than Group IV (claims 14-16); therefore, the presence of Group I is absolutely not required as one of polarizer elements. Furthermore, the lubricant composition and polarizer elements are two distinctive inventive entities.

The requirement is still deemed proper and is therefore made FINAL.

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Claims 11-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected groups II, III, and IV, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 10.

**Claim Rejections-35 USC 112**

1. Applicants' argument filed 5/12/2003 have been fully considered but they are not persuasive.

The rejection of Claims 1-10 has been maintained due to applicants' failure to change in the amendment.

**Response to Applicants' Argument**

1. the examiner has rejected the instant invention based on the claim scope to be very broad;
2. the general scheme and 41 specific examples can be the representatives for the claimed invention;
3. the enablement for a mesogenic group, a non-polymerizable group, a polymerizable group has been described in the specification;
4. the skilled artisan in the art knows what is meant by a chiral or an achiral radical with the metes and bounds of such terms.

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First, with respect to the first and the second arguments, the Examiner has noted applicants' argument. However, according to the claimed invention, the claims encompass thousands of various compounds represented in the structural formula. Applicants' specification provide the only 41 particular exemplified compounds, which can not be the representatives for all the possible claimed compounds. Furthermore, the specification provides no evidence of producing all the possible multireactive polymerizable mesogenic compounds according to Scheme 1-16 in the specification. Furthermore, the skilled artisan can practice the instant invention without undue experimentation based on eight factors; especially, the presence or absence of working examples and the breath of the claims. Thus, the examples herein have failed to provide sufficient working examples to support the production of thousands of compounds represented in the structural formula.

Second, regarding the third argument, the Examiner has noted applicants' argument. However, the Examiner has emphasized the scope of the enablement for the mesogenic group, the non-polymerizable group, and the polymerizable group, which can not be undefined. According to the claimed invention, the examples of the mesogenic group are—Phe-Z-Phe-, -Phe-Z-Cye-, -Phe-Z-Phe-Z-Cye-, -Cye-Z-Cyc-, etc., in which Z can be —COO-, -OCO-, —CH<sub>2</sub>CH<sub>2</sub>-, —C=C- or a single bond. Furthermore, the examples of the non-polymerizable groups are an acrylate group, a methacrylate group, a vinyl or vinyloxy group, an epoxy group, a styrene group, , or a propenyl ether group , whereas those of the polymerizable group are an halogen, CN, OCN, NCS, NO<sub>2</sub>. Therefore, only those examples in the above reasonably provide enablement for the

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mesogenic group, the non-polymerizable group, and the polymerizable group, but not for all the possible mesogenic groups or non-polymerizable groups, or polymerizable groups known in the field of organic chemistry.

Third, concerning the fourth argument, the Examiner has noted applicants' argument. However, the claims are direct to the mesogenic compounds, which may have the chirality or the achirality on the specific sites along the core structure of the compounds due to the spatial arrangements of particular substituents. The term "a chiral or achiral alkyl radical" in the claim can not be sufficient enough to describe the spatial arrangements of the R or S configuration in the claimed compounds.

Therefore, all the rejections are maintained.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the

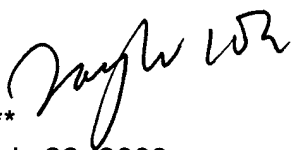
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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taylor Victor Oh whose telephone number is 703-305-0809. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alan Rotman can be reached on 703-308-4698. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-2742 for regular communications and 703-305-7401 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.

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July 22, 2003

  
ALAN L. ROTMAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1605